Your response

Question	Your response
Section 3 –Spectrum use by the PMSE sector in the UK **Question 1**: What are your views on how our processes work - for example our online booking system, turnaround times, and event coordination. Do you think the current approach works well? How could we improve it?	Concurrent systems are confusing, but overall for PSME CH38 licences, the application process is swift once registered – don't understand why organisations can't register themselves?
Section 4 – PMSE historic trends **Question 2**: Do you have any comments on how we have analysed and characterised wireless microphone and IEM demand, or suggestions for alternative ways of characterising this demand?	I'm aware of many users who don't hold UKCh38 licences despite continued encouragement – mainly schools. Would it not be also beneficial to round robin those licence holders for a quick tally of how many units are in use?
Question 3: Do you have any comments on how we have analysed and characterised wireless video demand, or suggestions for alternative ways of characterising wireless video demand?	---

Question	Your response
## Section 5 – Future trends and opportunities ## Wireless audio ### Drivers of demand **Question 4:** What factors have driven changes in the demand for audio PMSE applications, specifically for: a) the increased use of coordinated wireless microphones and IEMs, particularly the peak number of simultaneous assignments used at the largest events? b) the slight decline in the number of national wireless microphone licences (UHF channel 38 and VHF)? Has the extent of use of these licences changed, and if so why? c) the declines in talkback, fixed audio links and ADS licences?	As previously mentioned, I'm aware of many users who don't hold UKCh38 licences despite continued encouragement – mainly schools. Additionally, for an accurate measurement of use, would it not be also beneficial to round robin those licence holders for a quick tally of how many units are in use? Most hire companies can pull up records fairly quickly on A) the number of units in stock B) how many times they've gone out on jobs in a year A lot of talkback and fixed links are now via other carrier services and piggyback on those, rather than dedicated licensable frequencies. These tend to be more cost efficient.
Question 5: What factors could drive further changes in the demand for audio PMSE applications in the future, and what will this mean for future demand, specifically for: a) coordinated wireless microphones and IEMs, particularly the peak number of simultaneous assignments used at the largest events? b) national wireless microphone licences (UHF channel 38 and VHF)?	Further digitalisation of transmission equipment narrowing the bandwidth required per channel of audio, driven by manufacturers, leading to a reduction in the number of frequencies required overall.

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c) talkback, fixed audio links and ADS licences?	
Question 6: Do you agree that, given the trends, we are right to focus on wireless microphones/IEMs?	Yes – but don't rule the other out completely, they still exist and will continue to do so. As companies upgrade and move away from the older equipment, that will inevitably end up with organisations (Am Dram / Charities etc) who can get good use out of old equipment if it can still be legally operated.
Changes in the take-up of bands already available **Question 7:** What factors have driven the take-up of different bands for wireless audio? What are the barriers to greater use of the DME band?	Availability of equipment from manufacturers, and confidence that the frequency band isn't going to be pulled from under them.
Question 8: What actions could enable greater take-up of the DME, DECT and licence exempt bands in the future?	Equipment capable of greater frequency scope or interchangeable frequency modules. For hire companies, stocking multiple different models of the same units to accommodate all frequencies is a privilege reserved for only the biggest companies.
Changes in spectrum availability **Question 9:** Which potential additional bands might be suitable for wireless audio applications, particularly microphones and IEMs at the largest events and venues?	Look at the general bands provided by manufacturers, and work with those – for example, Sennheiser DX range S1-10 = 606 – 693, but CH38 can only utilise a tiny portion of that. Opening up space to allow full use of the unit's potential, would reduce overall costs for companies to not have to hold differing range equipment to satisfy larger scale use.
Question 10: To what extent do the characteristics of different audio applications drive their requirements for spectrum – for example particular requirements for latency, resilience or capacity?	---

Question	Your response
Changes in efficiency of spectrum use **Question 11:** What changes in spectrum use (technology, working practices, different bands, etc) have enabled audio wireless growth to be accommodated to date, particularly the increased use of wireless microphones and IEMs at the largest events and venues in the context of reduced UHF spectrum availability?	---
Question 12: What technologies are currently available or are being developed which can improve audio spectrum efficiency in the future, particularly in the use of wireless microphones and IEMs at the largest events and venues?	Digital technology advancements
Question 13: Are there any barriers to adopting more efficient technologies for audio applications, particularly for wireless microphones and IEMs at the largest events and venues? What could industry do and what could Ofcom do to facilitate greater use of those technologies?	Price point of equipment – and still a narrow tuning range is available, this needs to be widened to be more cost and frequency efficient
Question 14: What changes to working practices and spectrum planning could improve audio spectrum efficiency in the future, particularly in the use of wireless microphones and IEMs at the largest events and venues?	---
Question 15: Are there any barriers to adopting working practices that could enable more efficient use of spectrum by audio applications, particularly for wireless microphones and IEMs at the largest events and venues? What could industry do and what could	“Tradition” and uncertainty / non-proven equipment will never be adopted until much further in it’s career on larger scale – although there is room and technical availability for providing test beds for newer more efficient equipment, as budgets allow, and the sale slant of “we were use on Glasto” is great – but the people that drive change are often stomped on by the na-sayers with “years of experience” under their belts.

Question	Your response
Ofcom do to facilitate those efficiencies?	Unless Ofcom can drive a cultural change in the PSME industry, we're stuck.
## Wireless video ### Drivers of demand **Question 16:** What factors (such as more complex events and use of higher resolution equipment) have driven the demand for wireless video bandwidth, in particular for: a) the increased bandwidth required for the largest sporting events such as Formula 1 at Silverstone and The Open Championship? b) the bandwidth required for nationally important state events such as The Coronation? c) the slow growth or decline in bandwidth used at horse racing fixtures?	---
Question 17: What factors could drive further changes in the demand for wireless video bandwidth in the future, and what will this mean for future demand, in particular for: a) the bandwidth required for the largest sporting events like Formula 1 at Silverstone and The Open Championship? b) the bandwidth required for nationally important state events such as The Coronation?	---

Question	Your response
c) the bandwidth used at horse racing fixtures and other major sporting events?	
Potential news bands **Question 18:** What factors have influenced the degree of take-up of existing bands used by wireless video applications, particularly the growth in take-up of the 7 GHz band?	---
Question 19: Which potential additional bands might be suitable for video PMSE applications, particularly at the largest events and venues?	---
Question 20: To what extent do the characteristics of different video applications drive their requirements for spectrum – for example particular requirements for resilience or capacity?	---
Changes in efficiency of spectrum use **Question 21:** What technologies are currently available or are being developed which can improve wireless video spectrum efficiency in the future?	---
Question 22: Are there any barriers to adopting more efficient technologies for wireless video? What could industry do and what could Ofcom do to facilitate greater use of those technologies?	---
Question 23: What types of video demand could realistically be supported by private (for example 5G) networks?	---

Question	Your response
Question 24: What changes to working practices and spectrum planning could improve video spectrum efficiency in the future, particularly in the use of wireless microphones and IEMs at the largest events and venues?	---
Question 25: Are there any barriers to adopting working practices that could enable more efficient use of spectrum by wireless video? What could industry do and what could Ofcom do to facilitate those efficiencies?	---
## Other comments **Question 26:** Do you have any other comments or views on the issues raised in this document?	---

Please tell us how you came across about this consultation.

- ☐ Email from Ofcom
- X Saw it on social media
- ☐ Found it on Ofcom's website
- ☐ Found it on another website
- ☐ Heard about it on TV or radio
- ☐ Read about it in a newspaper or magazine
- ☐ Heard about it at an event
- ☐ Somebody told me or shared it with me
- ☐ Other (please specify)

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